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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P12815/OLL		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/06953	International filing date (day/month/year) 01.07.2003	Priority date (day/month/year) 01.07.2002	
International Patent Classification (IPC) or both national classification and IPC G06F1/32			
Applicant SONY ERICSSON MOBILE COMMUNICATIONS AB			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 3 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the opinion</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>			
Date of submission of the demand  27.12.2003		Date of completion of this report  11.10.2004	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer  Ciarelli, N  Telephone No. +31 70 340-2565	



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/EP 03/06953**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-5, 7, 8 as originally filed  
6 received on 12.07.2004 with letter of 08.07.2004

**Claims, Numbers**

1-12 received on 12.07.2004 with letter of 08.07.2004

**Drawings, Sheets**

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	6,12
	No: Claims	1-5,7-11
Inventive step (IS)	Yes: Claims	
	No: Claims	1-12
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following document:

D2:US-A-5903254

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

D2 discloses a battery driven electronic device (see col.1, lines 9-12) operable in four different modes with related power consumption (see col. 7, lines 5-6). It comprises and LCD as data presentation means (see col.4, lines 12-17), power consumption detecting means for establishing the present power consumption during operation of the device (see col. 7, lines 24-27) and means for presenting data dependent on established current power consumption through the data presentation means (see col. 7, 2nd paragraph).

The electronic device of D2 displays on the data presentation means an indication of the present power consumption mode (see figures 5A-5C), which is an indication of the consumption level (see e.g. col.7, lines 40-41). It uses a predetermined scale, which is the area underneath the faucet spout (see fig.5A-5C) and the representation of the "water flow" indicates the value in that scale. As is well known computers process data by calculating values. Hence, in order to display the correct icon corresponding the actual operating mode the device of D2 must comprise calculating means for calculating a level indicating parameter value representing the established present power consumption as a consumption level in a scale.

Hence D2 discloses all the features of claim 1.

The following should also be noted:

- i) the disclosure of D2 relates to power consumption and power conservation,

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power conservation being one aspect of power consumption.

- ii) the device disclosed by D2 comprises also means for monitoring, and thus for measuring and calculating, the present discharge current (see col.6, lines 36-41). Although this value is not directly displayed, the data is available for display in a scale, in analogy to the speaker volume level disclosed in the same document (see fig.3) or the display of instantaneous fuel consumption in other fields.
- 3. The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 7 which therefore is also considered not new.
- 4. Dependent claims 2-6,8-12, in view of D2, do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step.

even though the power consumption related to a specific mode may be neither unique nor constant. The more functions in the device that are accessible for the user, the more different modes can be defined. Consequently, with the advances in useable services and functions in electronic devices such as mobile phones, it is  
5 more and more rare that the user is actually in something that can be easily defined as standby mode or talk mode, but rather in a power consumption situation somewhere in between. The estimated battery time left as presented on the terminal display is therefore not always reliable.

According to an embodiment of the present invention, the status indication of  
10 the device therefore includes a power consumption gauge. Fig. 2 illustrates the status window 21, presentable on a display 12, for a radio communication terminal according to the prior art. As previously described, the estimated time left before a battery recharge is needed is expressed in standby time x and talk-time y.

Fig. 3, however, discloses a status presentation according to an embodiment  
15 of the invention. Regardless of the present mode in which the terminal is running, the current power consumption of the battery is measured and presented on the display. The power consumption may be presented as a direct measurement of the consumption, in e.g. mA. Alternatively, and as illustrated, the consumption may be presented as a power consumption symbol 22, in which a parameter value in a  
20 predetermined scale or range is indicated. In the example of Fig. 3, the current power consumption is displayed in a scale from A to B, wherein the current level is given by a graphical filling effect 23, or e.g. a colour scale. This scale may be given in absolute numbers, such as mA, or in a less specific unit. In one embodiment a percentage scale is used, wherein the lower level A is indicated as 0 %, whereas the  
25 upper scale B is indicated as 100 %. According to one useable definition, 100 % indicates the most demanding mode meaning the operable mode rendering the highest power consumption, whereas 0 % indicates standby mode. In this case, talk mode would be somewhere between 0 and 100 %, and an indication of the power consumption representative of talk mode may also be given in the gauge bar of such  
30 an embodiment, though not shown.

Furthermore, as illustrated in Fig. 3, the remaining time may be calculated for and expressed in terms of the currently used mode, and be directly displayed in the status window as actual time z. The drawing in Fig. 3 illustrates both the gauge bar 22 and the actual time indication, but other embodiments may incorporate only  
35 one of these.

Fig. 4 illustrates the default window 41 of a radio communication terminal according to the state of the art. By default window is here meant the items shown on the terminal display when no call is in progress, i.e. in standby mode. In this

Claims

1. A battery-driven electronic device which is operable in different modes with related power consumption, comprising data presentation means, power  
5 consumption detecting means for establishing present power consumption during operation of the device, and means for presenting data dependent on established current power consumption through said data presentation means, **characterised in** that said device comprises means for calculating a level indicating parameter value representing the established present power consumption as a consumption level in a  
10 predetermined scale, and in that said presented data comprises an indication of said consumption level in said scale.
2. The battery-driven device as recited in claim 1, **characterised in** that said presented data comprises said level indicating parameter value and a preset value of  
15 said scale.
3. The battery-driven device as recited in any of the previous claims, **characterised in** that said device comprises means for calculating remaining battery time dependent on the established current power consumption.  
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4. The battery-driven device as recited in claim 3, **characterised in** that said presented data comprises an indication of the calculated remaining battery time dependent on the currently running mode.
- 25 5. The battery-driven device as recited in any of the previous claims, **characterised in** that said data presentation means comprises a display.
6. The battery-driven device as recited in any of the previous claims, **characterised in** that said device is a radio communication terminal.  
30
7. A computer program product for a battery-driven device comprising a

microprocessor unit and data presentation means, said computer program product including computer program code which, when executed by the microprocessor unit, triggers the microprocessor unit to:

- detect present power consumption during operation of the device;
  - 5    - calculate a level indicating parameter value representing the detected present power consumption as a consumption level in a predetermined scale; and
  - presenting, by means of said data presentation means, an indication of said consumption level in said scale.
- 10    8. The computer program product as recited in claim 7, further comprising computer program code, which, when executed by the microprocessor unit, triggers the microprocessor unit to present said level indicating parameter value and a predetermined end value of said scale, by means of said presentation means.
- 15    9. The computer program product as recited in claim 7 or 8, further comprising computer program code, which, when executed by the microprocessor unit, triggers the microprocessor unit to calculate remaining battery time dependent on the detected current power consumption.
- 20    10. The computer program product as recited in claim 9, further comprising computer program code, which, when executed by the microprocessor unit, triggers the microprocessor unit to present an indication of the calculated remaining battery time dependent on the currently running mode.
- 25    11. The computer program product as recited in any of the previous claims 7 to 10, further comprising computer program code, which, when executed by the microprocessor unit, triggers the microprocessor unit to effect presentation on a display.
- 30    12. The computer program product as recited in any of the previous claims 7 to 11, wherein said battery-driven device is a radio communication terminal.